

**Remarks**

In the Office Action mailed February 14, 2006, the Examiner rejected claims 1 through 5 under 35 USC 112, second paragraph, as being indefinite for failing to point out and particularly claim the subject matter which the Applicants regard as the invention. In addition, the Examiner rejected claims 1 through 5 under 35 USC 103(a) as being unpatentable over U.S. Patent 5,576,240 to Radosevich et al. (hereinafter the '240 patent) in view of U.S. Patent 5,028,990 to Kotaki et al (hereinafter the '990 patent) and U.S. Patent 4,888,820 to Chen (hereinafter the '820 patent). These two rejections are treated in seriatim.

***Rejection under 35 USC 112, second paragraph***

The Examiner states that essential structural relationships between elements have been omitted, and that such omission makes the claim indefinite. Specifically, the Examiner appears to indicate that the recited stop region is a doped semiconductor structure, and that the omission of the patterned doped semiconductor structure in forming the stop region is indefinite. The language used in numbered paragraph 3 of the Office Action makes it difficult to ascertain what recitation or combination of recitations will overcome the present indefiniteness rejection. Furthermore, the Applicants believe that the claim, interpreted in light of the specification, fully recites the necessary structural relationship. Nevertheless, in the interest of advancing prosecution, the Applicants have amended the independent claims to more particularly recite the relationship between the substrate and patterning stop region. The Applicants believe such amendments overcome the Examiner's basis for rejection.

***Rejection under 35 USC 103(a)***

The insulating material 16 and substrate 10 (both shown in original FIG. 2) are each recited as being formed from a single layer of material, while a patterning stop region (shown as 14 in original FIG. 2) is disposed over and in contact with the substrate. Furthermore, the independent claims recite that a charge storage lamina (i.e., a capacitor) is formed within a container region and is in contact with the patterning stop region. The Examiner asserts that the

combination of the '240 and '820 patents teaches a single layer of substrate and a single layer of insulating material in a manner similar to that presently claimed. The Applicants strenuously disagree, as the '240 patent clearly shows a multilayer substrate **11** and **18** in all of its figures. The Examiner appears to be cognizant of this fact, noting in numbered paragraph 5 that the '240 patent includes "a layer substrate 11/18". An interpretation that this comprises a single layer is not supported by the teaching of the '240 patent, where the patentee expressly names layer **18** as a "substrate", and indicates that it is a separately formed layer from the field oxide layer **11**, as described at column 2, lines 60 through 62. The patentee additionally indicates that it is the substrate **18** that is possessive of semiconductor structure, indicating that it can be p-type or n-type silicon. By contrast, the field oxide layer **11** of the '240 patent is by its very nature an insulator, therefore making it *entirely inconsistent with the purposes of the claimed semiconductor features*. Furthermore, as shown in the figures of the '240 patent, the patterning stop region **12** cannot be in contact with the doped substrate **18**, and provides another reason why the primary teaching of the '240 patent is defective.

Recourse to the '820 patent is unavailing, as there is no indication that a patterning stop region is depicted as being over the substrate *and* in contact with a charge storage lamina. Instead, what is taught in the '820 patent is that the layer **4** that the Examiner relies upon as the purported patterning stop region as being in contact with the charge storage lamina *is in fact a part of the charge storage lamina*, forming the lower plate thereof, while layers **6** and **8** form an intermediate dielectric layer, while layer **10** forms the upper plate. Thus, the Examiner misinterprets the teaching of the '820 patent. Properly construed, the '820 patent does nothing to rectify the deficiencies of the '240 patent with regard to the single layer of insulating material and single layer substrate.

As mentioned in a previous response, the '990 patent unequivocally teaches multiple insulating layers **6** and **8**, neither of which individually satisfies the claimed requirement that a *single* layer be in contact with the substrate *and* have a container region formed within. FIGS. 4b, 9 and 10 of the '990 patent, some of which were relied on by the Examiner, show an insulating layer **6** intermittently formed along the upper surface of substrate **1**, while a separate insulating layer **8** includes a container region **9** disposed therein. The discrete nature of the two

layers is clear, as the first insulating overlayer 6 is neither made from the same material as that of insulating overlayer 8 nor contiguous with it. Thus, as with the '820 patent, the '990 patent does nothing to bridge the gap in teaching of the '240 patent with regard to the disputed claim recitations discussed above.

While it is generally accepted in USPTO practice that claim limitations of an indefinite article recited in the singular are interpreted as also encompassing the plural, there are important exceptions. Specifically, courts will give effect to a claim recitation that makes it clear that a recited article is limited to the singular. *Insituform Technologies, Inc. v. CAT Contracting, Inc.*, 40 USPQ2d 1602, 1608 (Fed. Cir. 1996). Such construction is especially warranted when arguments, claim amendments and other portions of the prosecution history manifest a clear intent to limit the claim to the singular. *Elkay Manufacturing Co. v. Ebco Manufacturing Co.*, 52 USPQ2d 1109, 1112 (Fed. Cir. 1999). This is precisely the fact pattern in the present application, where by claim amendments and accompanying remarks made in the December 15, 2005 response, the Applicant expressly distinguished the multiple layer approaches of the '240 and '990 patents. In fact, a more clear-cut example of such distinguishing features in light of the prosecution is hard to imagine.

Since none of the cited references teach the unique combination of substrate, insulating material, patterning stop region and charge storage lamina that are recited in the independent claims, the Applicants submit that the independent claims are patentable over the cited art and

Serial No. 10/044,178  
Docket No. MIO 0011 N2

therefore entitled to a finding of allowability by the Examiner. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response.

Respectfully submitted,  
DINSMORE & SHOHL L.L.P.

By 

John D. Reed  
Registration No. 46,506

One Dayton Centre  
One South Main Street, Suite 1300  
Dayton, Ohio 45402-2023  
Telephone: (937) 449-6453  
Facsimile: (937) 449-6405

JDR/ems